

# INTERNATIONAL SEARCH REPORT

International Application No PCT/GB 91/01578

<b>I. CLASSIFICATION OF SUBJECT MATTER</b> (If several classification symbols apply, indicate all) <sup>6</sup> According to International Patent Classification (IPC) or to both National Classification and IPC IPC5: C 12 P 21/08, C 12 N 15/13, A 61 K 39/395																							
<b>II. FIELDS SEARCHED</b> <div style="text-align: center;">Minimum Documentation Searched<sup>7</sup></div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 5px;">Classification System</td> <td style="padding: 5px;">Classification Symbols</td> </tr> <tr> <td style="padding: 5px;">IPC5</td> <td style="padding: 5px;">C 12 P; C 12 N; A 61 K</td> </tr> </table> <p style="text-align: center; font-size: small;">Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in Fields Searched<sup>8</sup></p>			Classification System	Classification Symbols	IPC5	C 12 P; C 12 N; A 61 K																	
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<b>III. DOCUMENTS CONSIDERED TO BE RELEVANT<sup>9</sup></b> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%; padding: 5px;">Category *</th> <th style="width: 60%; padding: 5px;">Citation of Document,<sup>11</sup> with Indication, where appropriate, of the relevant passages<sup>12</sup></th> <th style="width: 30%; padding: 5px;">Relevant to Claim No.<sup>13</sup></th> </tr> </thead> <tbody> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X</td> <td style="padding: 5px;">WO, A1, 9007861 (PROTEIN DESIGN LABS, INC.) 26 July 1990, see page 5; page 10, line 25 - page 14; page 28 - page 30</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1-5</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">Y</td> <td style="text-align: center; vertical-align: top; padding: 5px;">--</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1-9</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">X</td> <td style="padding: 5px;">Proc. Natl. Acad. Sci., vol. 86, December 1989, Cary Queen et al.: "A humanized antibody that binds to the interleukin 2 receptor", see pages 10029-10033, page 10031 right column-page 10033</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1-5</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">Y</td> <td style="text-align: center; vertical-align: top; padding: 5px;">--</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1-9</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;">Y</td> <td style="padding: 5px;">Nature, vol. 341, October 1989, E. Sally Ward et al.: "Binding activities of a repertoire of single immunoglobulin variable domains secreted from Escherichia coli", see page 544 - page 546</td> <td style="text-align: center; vertical-align: top; padding: 5px;">1-9</td> </tr> <tr> <td style="text-align: center; vertical-align: top; padding: 5px;"></td> <td style="text-align: center; vertical-align: top; padding: 5px;">--</td> <td style="text-align: center; vertical-align: top; padding: 5px;"></td> </tr> </tbody> </table>			Category *	Citation of Document, <sup>11</sup> with Indication, where appropriate, of the relevant passages <sup>12</sup>	Relevant to Claim No. <sup>13</sup>	X	WO, A1, 9007861 (PROTEIN DESIGN LABS, INC.) 26 July 1990, see page 5; page 10, line 25 - page 14; page 28 - page 30	1-5	Y	--	1-9	X	Proc. Natl. Acad. Sci., vol. 86, December 1989, Cary Queen et al.: "A humanized antibody that binds to the interleukin 2 receptor", see pages 10029-10033, page 10031 right column-page 10033	1-5	Y	--	1-9	Y	Nature, vol. 341, October 1989, E. Sally Ward et al.: "Binding activities of a repertoire of single immunoglobulin variable domains secreted from Escherichia coli", see page 544 - page 546	1-9		--	
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<div style="display: flex; justify-content: space-between; font-size: small;"> <div style="width: 45%;"> <p>* Special categories of cited documents:<sup>10</sup></p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubt on a priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principles or theory underlying the invention</p> <p>"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"Z" document member of the same patent family</p> </div> </div>																							
<b>IV. CERTIFICATION</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;">           Date of the Actual Completion of the International Search             16th December 1991         </td> <td style="width: 50%; padding: 5px;">           Date of Mailing of this International Search Report   <div style="text-align: center; font-size: large;">08 JAN 1992</div> </td> </tr> <tr> <td style="padding: 5px;">           International Searching Authority             EUROPEAN PATENT OFFICE         </td> <td style="padding: 5px;">           Signature of Authorized Officer   <div style="text-align: center;">MISS T. FAZELAAR</div> </td> </tr> </table>			Date of the Actual Completion of the International Search  16th December 1991	Date of Mailing of this International Search Report  <div style="text-align: center; font-size: large;">08 JAN 1992</div>	International Searching Authority  EUROPEAN PATENT OFFICE	Signature of Authorized Officer  <div style="text-align: center;">MISS T. FAZELAAR</div>																	
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III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
Y	Nature, vol. 332, March 1988, L Riechmann et al.: "Reshaping human antibodies for therapy", see page 323 - page 327 page 526 right column --	1-9
X	EP, A1, 0328404 (MEDICAL RESEARCH COUNCIL) 16 August 1989, see page 4; page 9, line 30; page 11, line 5 --	1-5
X	EP, A2, 0365209 (BECTON DICKINSON AND COMPANY) 25 April 1990, see in particular col. 3, lines 27-49 and columns 5-8 --	1-5
A	Proc.Natl.Acad.Sci., vol. 87, June 1990, J Sharon: "Structural correlates of high antibody affinity: Three engineered amino acid substitutions can increase the affinity of an anti-p-azophenylarsonate antibody 200-fold", see page 4814 - page 4817 --	1
A	Science, vol. 239, March 1988, M Verhoeyen et al.: "Reshaping Human Antibodies: Grafting an Antilysozyme Activity", see page 1534 - page 1536 --	1-9
A	Nature, vol. 321, May 1986, P T Jones et al.: "Replacing the complementarity-determining regions in a human antibody with those from a mouse", see page 522 - page 525 page 525, left column --	1
A	Nature, vol. 328, August 1987, S. Roberts et al.: "Generation of an antibody with enhanced affinity and specificity for its antigen by protein engineering", see page 731 - page 734 --	1

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
P,X	WO, A1, 9109966 (ORTHO PHARMACEUTICAL CORPORATION) 11 July 1991, see the whole document  --	1-5
P,X	WO, A1, 9107492 (CENTRAL BLOOD LABORATORIES AUTHORITY) 30 May 1991, see page 3  --	1
P,X	EP, A1, 0403156 (GENZYME CORPORATION) 19 December 1990, see example 12  --	1-5
P,X	WO, A1, 9109967 (CELLTECH LIMITED) 11 July 1991, see the whole document  --  -----	1-9

**ANNEX TO THE INTERNATIONAL SEARCH REPORT  
ON INTERNATIONAL PATENT APPLICATION NO. PCT/GB 91/01578**

SA 51310

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on 31/10/91.  
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Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO-A1- 9007861	26/07/90	AU-D-	5153290	13/08/90
		CA-A-	2006865	28/06/90
		EP-A-	0451216	16/10/91
EP-A1- 0328404	16/08/89	AU-D-	3062689	06/09/89
		GB-A-	2216126	04/10/89
		WO-A-	89/07452	24/08/89
EP-A2- 0365209	25/04/90	JP-A-	2238883	21/09/90
WO-A1- 9109966	11/07/91	WO-A-	91/09967	11/07/91
		WO-A-	91/09968	11/07/91
WO-A1- 9107492	30/05/91	AU-D-	6721490	13/06/91
EP-A1- 0403156	19/12/90	CA-A-	2018248	07/12/90
WO-A1- 9109967	11/07/91	WO-A-	91/09966	11/07/91
		WO-A-	91/09968	11/07/91

For more details about this annex : see Official Journal of the European patent Office, No. 12/82